

## EUROPEAN PATENT OFFICE

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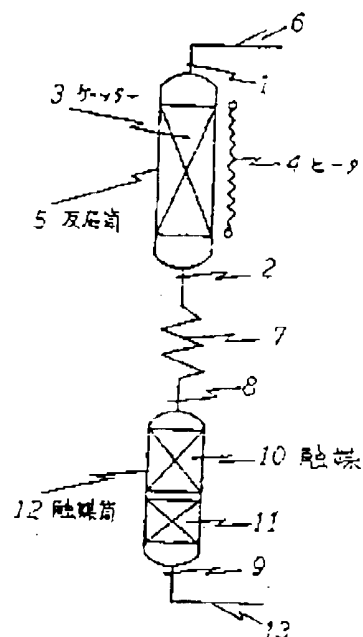
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TITLE : EQUIPMENT FOR HIGH-PURITY  
 REFINING OF RARE GAS



**ABSTRACT :** PURPOSE: To provide the subject equipment composed of a reaction column equipped with a getter and a catalyst column having a hydrogen-removing action connected therewith, capable of rapidly scavenging impurities except a part of hydrogen by bringing a rare gas into contact with the getter at an enough high temperature and capable of removing the residual hydrogen.

CONSTITUTION: A raw rare gas is supplied 6 from an inlet 1 into a reaction column 5 in such a state that the reaction column 5 is heated at a prescribed temperature by a heater 4. The rare gas introduced into the reaction column 5 is then brought into contact with a getter 3 to scavenge impurities by reactions thereof with the getter 3. The rare gas from which the impurities have been removed is then introduced to a cooler 7 through an outlet 2, cooled to a prescribed temperature by this cooler and subsequently supplied from an inlet 8 to a catalyst column 12. The above mentioned rare gas is brought into contact with a catalyst 10 and hydrogen is removed by the catalyst 10 when hydrogen remains in the rare gas. In case of presence of very small amounts of oxygen and carbon monoxide, these impurities are simultaneously removed. The rare gas is then brought into contact with an absorbent 11 so that very small amounts of remaining water, carbon dioxide, etc., may be adsorbed and removed in case of presence of these impurities and the treated gas is sent from an outlet 9 to an ejection pipe 13 as a high-purity rare gas.

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